

Amendments to the Claims:

This listing of the claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 (Currently Amended). A method for estimating the time-dispersion of a channel in a communications system, the channel comprising D subchannels, wherein one computes comprising:

computing, from a received signal received over the channel in a receiver, a set of estimated Channel Transfer Factors (CTF's) $\hat{H}[\nu]$, where ν (0 ≤ ν < D) is the subchannel number, said method comprising a step of calculating, for a predetermined strictly positive integer d , a correlation factor C_d representing the correlations, both in amplitude and in phase, between pairs $\hat{H}[\nu]$ and $\hat{H}[\nu + d]$ of said computed CTF estimates[[.]], and estimating, in said receiver, the time-dispersion of said channel using the calculated correlation factor C_d .

2 (Currently Amended). A time-dispersion estimation method according to Claim 1, characterized in that wherein a normalized expression for said correlation factor C_d is:

$$C_d \equiv \frac{2 \cdot \left| \sum_{\nu} \hat{H}^*[\nu] \hat{H}[\nu + d] \right|}{\sum_{\nu} \left(|\hat{H}[\nu]|^2 + |\hat{H}[\nu + d]|^2 \right)},$$

where the sums over v are carried over available pairs of said computed CTF estimates.

3 (Currently Amended). A time-dispersion estimation method according to Claim 1, characterized in that wherein a normalized expression for said correlation factor C_d is:

$$C_d \equiv \left(1 + \frac{1}{\zeta_u}\right) \frac{2 \cdot \left| \sum_v \hat{H}^*[v] \hat{H}[v+d] \right|}{\sum_v \left(|\hat{H}[v]|^2 + |\hat{H}[v+d]|^2 \right)} ,$$

where ζ_u is the mean channel estimation signal-to-noise ratio, and the sums over v are carried over available pairs of said computed CTF estimates.

4 (Currently Amended). A time-dispersion estimation method according to claim 1, characterized in that it further comprises further comprising a step of looking-up in a pre-constructed mapping table a value of channel excess delay τ corresponding to the value of said correlation factor C_d .

5 (Currently Amended). A time-dispersion estimation method according to claim 1, characterized in that it further comprises further comprising a step of adapting some link parameters as a function of the value of said correlation factor C_d .

6 (Currently Amended). A device (100) for estimating the time-dispersion of a channel comprising D subchannels for executing the method of claim 1, said device receiving as comprising:

an input [[a]] configured to receive the set of estimated Channel Transfer Factors (CTF's) $\hat{H}[\nu]$, where ν ($0 \leq \nu < D$) is the subchannel number, computed from [[a]] the received signal, characterized in that it comprises and a correlations unit (102) capable of computing configured to compute [[a]] the correlation factor C_d , where d is a predetermined strictly positive integer[[,]] representing the correlations, both in amplitude and in phase, between pairs $\hat{H}[\nu]$ and $\hat{H}[\nu+d]$ of said computed CTF estimates.

7 (Currently Amended). A time-dispersion estimation device according to Claim 6, characterized in that it also comprises further comprising a parallel-to-serial unit (101) capable, when provided with a CTF vector \hat{H} as an input, of providing said correlations unit (102) with a series of individual CTF's $\hat{H}[\nu]$ classified by successive subchannel number ν .

8 (Currently Amended). A time-dispersion estimation device according to Claim 6, characterized in that wherein a normalized expression for said correlation factor C_d is:

$$C_d = \frac{2 \cdot \left| \sum_{\nu} \hat{H}^*[\nu] \hat{H}[\nu+d] \right|}{\sum_{\nu} \left(|\hat{H}[\nu]|^2 + |\hat{H}[\nu+d]|^2 \right)},$$

where the sums over ν are carried over available pairs of said computed CTF estimates.

9 (Currently Amended). A time-dispersion estimation device according to Claim 6, characterized in that wherein a normalized expression for said correlation factor C_d is:

$$C_d \equiv \left(1 + \frac{1}{\zeta_u}\right) \frac{2 \cdot \left| \sum_v \hat{H}^*[v] \hat{H}[v+d] \right|}{\sum_v \left(|\hat{H}[v]|^2 + |\hat{H}[v+d]|^2 \right)},$$

where ζ_u is the mean channel estimation signal-to-noise ratio, and the sums over v are carried over available pairs of said computed CTF estimates.

10 (Currently Amended). A time-dispersion estimation device according to claim 6, ~~characterized in that it also comprises~~ further comprising a look-up table (103), capable of providing a value of channel excess delay τ corresponding to the value of C_d .

11 (Currently Amended). A time-dispersion estimation device according to claim 6, ~~characterized in that it also comprises~~ further comprising a link adapter responsive to the value of said correlation factor C_d .

12 (Currently Amended). A modulated-signal reception apparatus, ~~characterized in that it comprises~~ comprising a device according to claim 6.

13 (Currently Amended). A telecommunications network, ~~characterized in that it comprises~~ comprising at least one reception apparatus according to Claim 12.

14 (Currently Amended). A data storage ~~means~~ device, ~~characterized in that it contains~~ comprising a computer readable storage medium ~~storing~~ computer program code instructions for executing steps of [[a]]~~the~~ method according to claim 1.

15 (Currently Amended). A data storage means according to Claim 14, characterized in that it wherein the data storage device is partially or totally removable.

16 (Currently Amended). A computer program stored on a computer readable storage medium, characterized in that it contains comprising computer program code instructions such that, when said program controls is executed to control a programmable data processing device, said instructions mean that cause said data processing device implements to implement a method according to claim 1.

17 (Currently Amended). A time-dispersion estimation device according to claim 7, characterized in that wherein a normalized expression for said correlation for factor C_d .

$$C_d \equiv \frac{2 \cdot \left| \sum_v \hat{H}^*[v] \hat{H}[v+d] \right|}{\sum_v \left(|\hat{H}[v]|^2 + |\hat{H}[v+d]|^2 \right)},$$

where the sums over v are carried over available pairs of said computed CTF estimates.

18 (Currently Amended). A time-dispersion estimation device according to claim 7, characterized in that wherein a normalized expression for said correlation for factor C_d is:

$$C_d \equiv \frac{2 \cdot \left| \sum_v \hat{H}^*[v] \hat{H}[v+d] \right|}{\sum_v \left(|\hat{H}[v]|^2 + |\hat{H}[v+d]|^2 \right)},$$

where ζ_u is the mean channel estimation signal-to-noise ratio, and the sums over v are carried over available pairs of said computed CTF estimates.

19 (Currently Amended). A time-dispersion estimation device according to claim 7, ~~characterized in that it also comprises~~ further comprising a look-up table (103), capable of providing a value of channel excess delay τ corresponding to the value of C_d .

20 (Currently Amended). A time-dispersion estimation device according to claim 7, ~~characterized in that it also comprises~~ further comprising a link adapter responsive to the value of said correlation factor C_d .